COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS & ENERGY

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| Investigation by the Department on its own Motion into Distributed Generation | ) ) ) ) | DTE No. 02-38 |

COMMENTS OF REALENERGY, TURBOSTEAM, INGERSOLL-RAND, ENCORP, AMERADA HESS AND THE NORTHEAST COMBINED HEAT AND POWER INITIATIVE REGARDING THE REPORT OF THE MASSACHUSETTS DISTRIBUTED GENERATION COLLABORATIVE AND THE PROPOSED INTERCONNECTION TARIFF

## I. Introduction

Pursuant to the Request for Comments dated May 19, 2003, RealEnergy, Inc. ("Real Energy"), Turbosteam Corporation ("Turbosteam"), Ingersoll-Rand, Encorp. and the Northeast Combined Heat and Power Initiative ("NECHPI") offer the following comments to the joint report of the Massachusetts Distributed Generation Interconnection Collaborative (hereinafter, the "Joint Report" and the "Collaborative" respectively) and the Tariff to Accompany Proposed Uniform Standards for Interconnecting Distributed Generation in Massachusetts ("Proposed Interconnection Tariff").

1. RealEnergy is a Delaware corporation that develops, designs, installs, owns and operates distributed generation ("DG") systems throughout the United States. Founded in 2000, RealEnergy is headquartered in Los Angeles, CA. RealEnergy is currently developing DG projects in Massachusetts.

2. Turbosteam Corporation is a Delaware Corporation that develops, designs, manufactures and installs small (50 kW - 10 MW) combined heat and power projects throughout the world. Founded in 1986, the company's offices and manufacturing facilities are located in Turners Falls, MA.

3. Ingersoll-Rand is a large diversified Fortune 500 firm. It manufactures, distributes and sells a wide variety of environment friendly industrial-quality equipment and

components including the PowerWorks® family of microturbine systems and a wide range of reciprocating engine-driven generators (gensets) for stationary applications.

4. Encorp is headquartered in Windsor, Colorado, where approximately 100 employees develop and market software and hardware technology solutions for the communication, control, and networking of distributed energy. The vast majority of Encorp's projects involve interconnecting distributed energy resources with the utility power grid.

5. Amerada Hess, headquartered in New York, is a global integrated energy company engaged in the exploration for and the production, purchase, transportation and sale of crude oil and natural gas, as well as the production and sale of refined petroleum products. Hess Microgen is a subsidiary that manufactures distributed generation equipment.

6. The NECHPI is a volunteer public/private group comprised of representatives from combined heat and power ("CHP") project developers, CHP proponents, electric distribution utilities and government and quasi-government entities. The mission of NECHPI is to lead the region in encouraging the use and implementation of CHP technologies, and to coordinate public and private sector activities to support CHP development in the Northeast.

## II. General Comments

1. In the first sentence of its Order Opening Investigation of Distributed Generation, the Department of Telecommunications and Industry (the "Department") stated that it "has recognized the importance of distributed generation as a resource option in the restructured electric industry."[1] Any policy adopted out of this process should therefore make interconnection easier, faster, and more efficient than it is today, without compromising safety or system reliability. We appreciate the work of all the stakeholders who participated in the Collaborative process. We support the goals of the Collaborative for DG interconnection now and in the future in Section 2 of the Report. We support the recommendation of an ongoing Collaborative process to refine the interconnection standards over time found in Section 6 of the Joint Report.

2. The Proposed Interconnection Tariff presents a new approach to the interconnection of distributed generation because it involves the application of technical screens

[1] D.T.E. 02-38 at 1 (2002).

to facilitate the rapid review and approval of interconnection applications that meet the screening criteria. Technical requirements were developed to reflect the development of national standards such as IEEE 1547 and others. We understand that the screens will be reviewed as part of the annual review process referenced in Section 6 of the Joint Report.

3. While all stakeholders shared the common interest of developing uniform interconnection standards, each stakeholder came to the table with a unique set of interests. As a result, it was not always possible to reach a consensus on important matters. The Collaborative could not reach a full consensus and has asked the Department to resolve four issues, including:

(1) the length of time that the Distribution Companies have to review interconnection applications ("Timelines");

(2) the inter-relationship between existing regulations regarding the interconnection of Qualifying Facilities and On-Site Generating Facilities located at 220 CMR 8.04 (the "QF Regulations") and the Proposed Interconnection Tariff;

(3) whether interconnection agreements and facilities will be subject to retroactive change in the case the Interconnection Tariff changes in the future, and ("Supercedence"); and

(4) The allocation and treatment of costs for studies of the Distribution Company's electric distribution system and necessary modifications thereto. One additional unresolved issue includes the ownership of metering. Our comments are largely focused on these areas of disagreement.

In the case of the first item of non-consensus, RealEnergy is the only party that publicly dissented from the proposal that was accepted by the Collaborative on Timelines (the "Majority Proposed Timeline"), while remaining as a participant in the process.[2] While we articulate RealEnergy's reasons and present an alternative proposal in detail below, the importance of consensus is that each stakeholder representative is not only speaking for themselves, but also as a surrogate for other parties with like interests who did not participate in the Collaborative process.

For the disputes numbered (2)-(4) above, there was no agreement in the Collaborative and both the DG Cluster the Utility Clusters made alternative proposals that are highlighted in the text of the Proposed Interconnection Tariff, including the incorporated exhibits. In resolving these areas of disagreement, we request the Department consider the goals of the Collaborative

[2] One original participant in the Collaborative, Andy Newman, representing Solutia, Inc. and MeadwestVaco walked out of the Collaborative in December 2002 in protest over the handling of several issues, including timelines for review and applicable fees for impact studies.

found in Section 2 of the Joint Report, which include establishing uniform standards now and in the future "without sacrificing existing efficiencies in current interconnection standards" and which "incorporate the best features of existing interconnection policies."[3] To restate from above, in resolving these issues, don't make interconnection harder than it is currently.

4. One area that was left largely untouched by the Collaborative is the question of interconnection with network systems. The Expedited Process for networks is currently designed so that only systems under 10kW will be eligible. All other systems will proceed through Standard Process review. We recognize that the interconnection of a distributed generation system to a network distribution system involves a host of complex technical issues. But, we are also aware and involved with interconnections of Facilities over 1MW on spot networks that are proceeding in other states.[4] Furthermore, Turbosteam installed a 50 kW system with an induction generator on the Boston Edison (now NStar) network in 1999, which has operated without incident in parallel with the utility grid for 4 years now. Under the proposed standard, this system would not be expedited for interconnection despite the fact of this real experience on the NStar grid. Massachusetts Distribution Companies should be encouraged to draw on their own experiences as well as the experience of other utilities in order to facilitate and allow interconnections in network systems. We look forward to working with the Distribution Companies on specific projects as well as in the ongoing Collaborative process to resolve the challenges of interconnection a distributed generation facility within a network system.

In this regard, DG provides the most system benefit in areas of constrained capacity, like the Boston area and other urban core areas. As many urban areas have networked distribution systems, so the technical challenge of interconnecting with a network must be solved in order for rate payer to fully realize the benefits of DG.

5. Early in the Collaborative process several members of the DG stakeholder group proposed that a distinction be made between facilities that export to the grid, and those that do not. To the extent that a distributed generation facility has employed measures to protect against any inadvertent export of power to the grid, then the so-called protection package of equipment may not be as extensive or expensive as needs be for facilities that choose to export power. We hope the Collaborative will address these issues as part of an ongoing process.

[3] See Joint Report Section 2.a and 2.b
[4] We are aware of interconnections on spot networks in California and New York.

6. The Collaborative allocated its time and efforts in certain areas, such as the development of technical screens and the Expedited Process. Other areas, in particular the Standard Process, were not covered with the same degree of effort. As a result, the Standard Process is a work in progress and the details of how each step in the outlined process will be implemented remains to be seen. The Proposed Interconnection Tariff only gets to the point of the process of an Interconnection Agreement. The Proposed Interconnection Tariff creates no timeline requirement for the completion of the interconnection. Thus, the Distribution Companies have no deadline for completing any required system upgrades or modifications that will be necessary to allow interconnection. We contrast this to the current regulations applicable to Qualifying Facilities located at 220 CMR 8.00 which apply to the entire interconnection process.

All parties will need to continue to work together and with the Department in a cooperative spirit to ensure that the interconnection standards are implemented in a manner that is consistent with the goals of the Collaborative and the Department. We expect these and other issues to be resolved more definitively in the compliance filings that will follow the adoption of a new interconnection standard.

7. Many distribution companies in the United States perceive distributed generation as a competitive threat. Each kW of DG on their system decreases the revenue they receive from the customer. System wide benefits of a diverse distributed generation base may not be realized as tangible economic rents by the distribution company. And in any case, at this point in the nascent stages of the DG industry, such benefits may seem ephemeral when compared to the prospect of lost revenue. The point is that the distributed generation industry needs the public utility commissions throughout the United States to police the behavior of the utilities and ensure fair treatment for customers who employ distributed generation. Sifting the legitimate policies to ensure safety and reliability from pre-textual overblown concerns masking anticompetitive behavior is no easy task. Any consideration of interconnection rules should keep this perspective in mind. We stress that this is a general comment and is not intended to cast aspersions at any Massachusetts Distribution Company. Rather, it reflects a sober understanding of the economic incentives currently in place.

## III. Specific Comments Regarding Disputed Issues

We offer the following comments to the issues referenced in the cover letter from the Collaborative to the Department dated May 15, 2003.

1. **Timelines.** RealEnergy's Proposal for Interconnection Review Timelines should be Adopted because (A) It Fairly Balances the Interests of Distribution Companies and DG Developers; (B) It is Consistent with Interconnection Timelines Developed in Other States and Currently Existing Regulations Applicable to Qualifying Facilities; and (C) The Majority Proposed Timelines Raise the Barriers to Interconnection in Contravention of the Department's Stated Interest in Removing Unnecessary Barriers to Interconnection;

(A) In its counter proposal for interconnection timelines in Section 3.4 of the Proposed Interconnection Tariff, RealEnergy proposes that as a general rule a Standard Process review should typically take no more than 16 weeks. RealEnergy proposes that an Expedited Process review should typically take no more than 8 weeks. We note the timelines apply to the working time of the Distribution Company and will not run when delays are caused by the interconnecting customer. In all cases, we recommend that a distribution company be able to petition the Department for an extension of time when extensive modifications or additions to the Distribution Company transmission or distribution system are required to accommodate an interconnection. Additional time should also be granted by the Department in cases of disputes regarding the cost of required system modifications.[5] This proposal fairly balances the interests of the Distribution Companies and the DG Developers.

In our experience, and as confirmed by a Massachusetts distribution company representative, the interconnection review for a DG Facility reviewed under the Standard Process typically should involve between 20 and 40 hours of actual work. We note that for the "Expedited Process" the distribution companies are limited to between 10 and 20 hours of work (including Supplemental review).

[5] These are taken from the QF Regulations located at 220 CMR 8.04(6).

What then, is a reasonable amount of time that Distribution Company should be allotted to complete this amount of work? While we recognize that all businesses must balance limited resources and workloads, we submit that absent extenuating circumstances, 16 weeks is sufficient to accomplish 40 hours of work. And 13 weeks is surely a reasonable amount of time to accomplish up to 20 hours of work. Remember that extensions would be available for special circumstances.

In summary, the RealEnergy Timelines present a better starting point that can be refined as appropriate, up or down, over time as part of the ongoing Collaborative process. In the near-term in particular, we do not expect a massive surge of DG projects to overwhelm the Distribution Companies' ability to process applications in a timely fashion. In fact, we are aware of only a handful of projects in all of Massachusetts that would require substantial interconnection review currently.

(B) RealEnergy's Proposed Timelines are consistent with the models developed in other states and the current Massachusetts QF Regulations. Among other states that have adopted and implemented interconnection standards, a rough consensus seems to be coalescing around interconnection standard review timelines of 4 to 8 weeks for smaller scale interconnections.[6] Moreover, three of the four Massachusetts Distribution Companies currently have interconnection standards for Qualifying Facilities and On-Site Generation Facilities (hereinafter "QFs" and "OSGFs") of any size that require full interconnection of the QF or OSGF (not just review and approval) within 13 weeks (90 calendar days), with extensions allowed upon request to the Department in cases of extenuating circumstances.[7] These 90 day standards are derived from the existing Massachusetts QF Regulations found at 220 CMR 8.04(6).[8] RealEnergy's proposal is more conservative than the timelines that exist in other models and jurisdictions. Given that the QF Regulations require interconnection for QFs and OSGFs in 90 days, RealEnergy's Standard Process review proposal of up to 16 weeks (112 days) seems more than reasonable.

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[6] Texas and Delaware have adopted a 4--week process for interconnection of distributed generation on radial systems and 6 weeks for interconnection with secondary networks. California has a simplified process for interconnection that takes between 20 and 30 business days. NY has adopted an interconnection standard process which can take between 4 and 8 weeks for systems < 300 kW.

[7] See NSTAR Services Co., Procedures for Interconnection, Metering and Payment with Qualifying Facilities or On-Site Generating Facilities Section 8.04(6); WMECO Tariff M.D.T.E. 1014C; and Fitchburg Gas and Electric Light Company Rates Applicable to Qualifying Facilities and On-Site Generation Facilities (M.D.T.E. No. 57 sheet 4)

[8] For a full discussion of the QF Regulations see Sections II. and IV. below.

(C) The Majority Proposed Timelines are too long and contravene the Department's stated interest in removing unnecessary barriers to interconnection.[9] The Majority Proposed Timelines provide the distribution companies between 8 and 12 weeks to complete the so-called "Expedited Process."[10] This misnomer (in our view 12 weeks is hardly "expedited") is put into perspective by the Majority Proposed Timeline for the **"Standard Process," which allows the Distribution Companies to take up to between 25 and 30 weeks** (210 calendar days) or more. These Majority Proposed Timelines are simply too long for the typical interconnection application.

In the Collaborative negotiations, the distribution companies stated the need for extended timeframes in order to accommodate all projects, even the very difficult, worst-case scenarios where substantial delays occur. However, we suggest that timelines based on worst-case scenarios lead to overly conservative rules that are neither fair nor reasonable.

While we appreciate the commitments of the Distribution Companies to meet customers' needs and streamline the process over time,[11] due to past experience, we are concerned about leaving the Distribution Companies with unfettered discretion on the promise of efforts to expedite. Our experience in other jurisdictions suggests that utilities will tend to take the maximum time allotted. Therefore we argue in favoring of initially establishing a shorter timeline for interconnection application review, but allowing the Distribution Company reasonable extensions as approved by the Department when necessary. That way, the Department will act as a natural check on Distribution Company behavior as a matter of course.

In Conclusion, Realenergy's Proposal for Interconnection Review Timelines should be adopted because (A) it fairly balances the interests of Distribution Companies and DG owners; (B) it is consistent with interconnection Timelines developed in other states and currently existing regulations applicable to Qualifying Facilities; and (C) the Majority Proposed Timelines could actually raise the barriers to interconnection, if they are held to apply to Qualifying Facilities and On-Site Generation Facilities, in contravention of the Department's stated interest in removing unnecessary barriers to interconnection.

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[9] See D.T.E. 02-38 at 3.
[10] Because the various standards refer to timelines in different measures, for comparative purposes we refer to timelines in terms of weeks (1 week = 5 business days = 7 calendar days).
[11] See Joint Report Section 6.

2. **Qualifying Facilities Regulations.** The Department Should Issue a Clear Statement and Requirement That Where the Terms of the Proposed Interconnection Tariff Conflict With the Terms of the QF Regulations located at 220 CMR 8.00 et. seq., Including But Not Limited to Timelines for Review and Cost Allocation Provisions, Then the Terms of the QF Regulations Shall Apply to QFs and OSGFs.

In the cover letter accompanying the Joint Report, the Collaborative unanimously stated "This report is not intended to replace or change the regulations promulgated under 220 CMR 8.00." This sentence was inserted to acknowledge the fact that the Collaborative never addressed the impact of the Proposed Interconnection Tariff on the existing QF Regulations. The Collaborative never reconciled the provisions of the Proposed Interconnection Tariff with the provisions of the QF Regulations in areas of potential conflict. The Joint Report is silent on the issue of Qualifying Facilities because they simply were not considered separately from all other distributed generation as part of the Collaborative process. Rather than try at the last moment to reconcile the various areas of conflict, the parties agreed that the Proposed Interconnection Tariff was not intended to change or replace the regulations applicable to Qualifying Facilities.

After the filing of the Joint Report, a smaller sub-group of Collaborative members began the process of drafting the Proposed Interconnection Tariff.[12] When the work group tried to resolve the issue of Qualifying Facilities during the drafting process, two conflicting interpretations arose. The DG stakeholders took the view expressed in the plain language of the sentence quoted in the first sentence of this section. That is, the Proposed Interconnection Tariff should not be deemed to replace or change the QF Regulations. To the extent of any conflict between the existing QF Regulations and the Proposed Interconnection Tariff, the QF Regulations should continue to apply to Qualifying Facilities and On-site Generation Facilities.

The Distribution Companies took the contrary position that the Proposed Interconnection Tariff is in fact consistent, and not in conflict, with the terms of the QF Regulations, and therefore should apply to all DG interconnections, including QFs and OSGFs.[13]

[12] The Tariff Drafting Workgroup was comprised primarily of representatives from the Distribution Companies and representatives from the following DG Stakeholders: Ingorsoll-Rand, RealEnergy, Trigen and UTC Fuel Cells.
[13] The Distribution Companies did not argue that the terms of the Proposed Interconnection Tariff should apply to QFs and OSGFs in the event of a conflict with the QF Regulations, and no such argument should be entertained now. Such an argument would fly directly in the face of the agreed statement in the Joint Report quoted above, that the Tariff "was not intended to change or replace" the QF Regulations. This statement was a condition of the final

To resolve this issue, the Department must answer only one question: Are the terms of the Proposed Interconnection Tariff in conflict with the terms of the QF Regulations as applied to a Qualifying Facility? If the answer is yes, as we argue below, then the Department should issue a clear statement and requirement that where the terms of the Proposed Interconnection Tariff and the QF Regulations, including but not limited to those enumerated herein, then the terms of the QF regulations shall apply to QFs and OSGFs. We address four areas of conflict in detail below to demonstrate that the QF Regulations and the Model Interconnection Tariff are clearly in conflict. These areas of conflict include:

(1) the QF Regulations require interconnection within 90 calendar days (13 weeks) absent an extension from the Department,[14] whereas the Standard Process allows up to 150 business days (which equals roughly 210 calendar days or 33 weeks) just to get to an interconnection agreement;[15]

(2) the QF Regulations contain detailed provisions regarding what costs can be assessed to the Interconnecting Customer with respect to system upgrades ("System Modifications" in the Proposed Interconnection Tariff),[16] these provisions are more detailed and arguably would likely result in a different outcome than the cost allocation provisions found in Section 5 of the Proposed Interconnection Tariff;

(3) the QF regulations have no applications fees, initial site inspections are performed at the Distribution Company's expense,[17] whereas the Proposed Interconnection Tariff has substantial applications fees,[18] and

(4) the QF Regulations allow an interconnecting QF or OSGF to amortize the costs of paying for interconnection upgrades over time,[19] whereas the Proposed Interconnection Tariff does not allow amortization of payments.[20]

Each of the four areas of conflict are addressed in detail below.

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consensus reached. While we have not addressed such an argument here, if it is made, we would request the opportunity to respond.

[14] 220 CMR 8.04(6)

[15] Proposed Interconnection Tariff Section 3.4 and accompanying Table 1. We note a discrepancy which we believe is a typo in that the text of 3.4 states that the Standard process has a maximum timeline of 180 days, whereas Table 2 states 150 days. Table 2 was the agreed number and the text of 3.4 is a typo.

[16] 220 CMR 8.04(7)

[17] 220 CMR 8.04(2)

[18] Proposed Interconnection Tariff Section 3 and accompanying Table 2.

[19] 220 CMR 8.04(7)(c)

[20] See Proposed Interconnection Tariff Section 5.5.

(1) The Timelines in the QG Regulations are not consistent with the Majority Proposed Timelines from the Model Interconnection Tariff. 220 CMR 8.04(6), adopted in a 1999 rulemaking proceeding, sets forth the timeline for interconnection of Qualifying Facilities or On-site generating Facilities. The provision states as follows:

> (a) Distribution Company's Obligation to Interconnect. A Distribution Company is not required to interconnect with a Qualifying Facility or On-Site Generating Facility until 90 days after the Qualifying Facility or On-Site Generating Facility has notified the Distribution Company in writing that it intends to interconnect with the Distribution Company's system. Upon notice to the Qualifying Facility or On-Site Generating Facility and the Department, the Distribution Company may petition the Department for additional time when extensive modifications or additions to the Distribution Company transmission or distribution system are required to accommodate an interconnection. Additional time may also be granted by the Department if a petition under section 8.03(1)(c) or section 8.04(3) is before the Department.

The meaning of this provision is clear. Distribution companies must interconnect a Qualifying Facility or On-Site Generating Facility (without regard to size) within 90 (calendar) days of receipt of notice that a QF **intends to interconnect**. The Department, allows the distribution company to petition for an extension of time "when extensive modifications or additions to the Distribution Company transmission or distribution system are required to accommodate an interconnection." The regulation further provides that "Additional time may also be granted by the Department if a petition under section 8.03(1)(c) (disputes regarding power purchase agreements) or section 8.04(3) (disputes regarding the cost of system upgrades) is before the Department.

Some have argued that the meaning of Section 8.04(6)(a) is unclear and that the 90 day limitation is a floor, rather than a ceiling, on the time that the distribution company may take before it must interconnect. Such an interpretation flies in the face of the plain language of the regulation. In addition, a review of the Order adopting the regulation makes the point clearly and succinctly. In its order dated December 27, 1999 the Department reviewed the comments of the parties as well as some history behind the 90 day limitation. That Order makes it clear that the 90--day period was the maximum time that the Distribution Company could take to interconnect a QF or an OSGF, absent an extension from the Department. [21]

This 90--day rule makes eminent sense because it establishes a rule of general application, but then allows extensions for special circumstances. Perhaps more importantly, it

[21] See Order dated December 27, 1999 in proceeding 99-38. The relevant text from the Order is quoted in full and attached hereto as Exhibit A.

puts the onus on the party in control of the situation, the Distribution Company, to seek (and thereby implicitly justify) an extension if necessary. Indeed we think it the right approach for all interconnections of distributed generation in Massachusetts.

In stark contrast, the Standard Process timeline in the Proposed Interconnection Tariff allows a Distribution Company to take up to between 25 and 30 weeks (up to 210 calendar days) and even more in order to review an interconnection application, perform the necessary studies and present an executable interconnection agreement. This lengthy period directly and expressly conflicts with the 90 day requirement of 220 CMR 8.04(6). As previously mentioned, this Timeline does not even include the time to construct distribution system upgrades, so the actual time to interconnect could be substantially longer when such construction is required.[22]

The Department should declare that the Standard Process timelines in the Proposed Interconnection Tariff will not apply to Qualifying Facilities or On-Site Generation Facilities because the Standard Process timeline is in direct conflict with the timelines required in the QF Regulations. In contrast, we note that the Expedited Process timelines do not expressly conflict with the timelines in the QF Regulations and therefore could apply.

In our Collaborative discussions, the Distribution Companies took the view that the timelines are consistent with the QF regulations. The Distribution Companies argued that the Proposed Interconnection Tariff was consistent with the QF Regulations by the following logical syllogism – the Proposed Interconnection Tariff Timelines are based on the original joint utility proposal which, in turn, was based on the current Interconnection Requirements Document of National Grid (M.D.T.E. No. 1052) (the "National Grid Interconnection Requirements"). Since the National Grid Interconnection Requirements were approved by the Department as compliant with the QF Regulations, then the Proposed Interconnection Tariff is compliant and consistent as well. After all, the maximum timeline under the Proposed Interconnection Tariff Standard

[22] As a point of reference, the interconnection standards for the National Grid Companies are set forth in the Massachusetts Electric Company and Nantucket Electric Company Interconnection Requirements Document (M.D.T.E. No. 1052) (the "National Grid Interconnection Standards"). These interconnection standards formed the base upon which the Distribution Company joint proposal was originally modeled. They provide a 90 day period from the date of receipt of an **executed interconnection agreement** for National Grid to complete any construction required to interconnect (M.D.T.E. 1052 Section 5.1 at Sheet 11). As a side note, this section of M.D.T.E. 1052 is a gross distortion of 220 CMR 8.04(6) which requires interconnection within 90 days from receipt of a **notice of intent to interconnect**. This verbal twist, shifting the start of the 90 day clock from the date of notice, to the much later date of interconnection agreement, along with several others, effectively allows National Grid to take up to 325 days from the notice of intent to interconnect before a an interconnecting party would have cause to complain under the terms of the Company's policy. See Exhibit B attached hereto.

Process is 30 weeks, which is 3 weeks less than the 33 weeks allowed under the National Grid Interconnection Requirements Timeline.

This argument, if it holds together, has some logical force. However, the argument fails because it rests on a faulty premise, it runs counter to the agreed statement that the Collaborative did not intend to change or replace the QF Regulations, and it would result in raised, not lowered barriers to interconnection.

First, we submit that the National Grid Interconnection Requirements depart dramatically from the requirements of the QF Regulations with respect to Timelines, allowing the National Grid Companies up to 325 calendar days to interconnect a Qualifying Facility. [23] The National Grid Interconnection Requirements are therefore not an appropriate or legitimate basis upon which to build interconnection Timelines applicable to Qualifying Facilities for the future.

To summarize, the QF regulations clearly state that Distribution Companies have 90 calendar days, unless extended by the Department, to interconnect a QF or OSGF. Three of the four Distribution Companies currently have policies for interconnecting Qualifying Facilities that closely mirror the language of 220 CMR 8.04(6) and include 90 calendar day timelines for interconnection. One Company, National Grid, has an interconnection requirements document that provides a timeline of up to 325 calendar days for interconnection, which is more than three times as long as the current timelines in the interconnection standards of the other Distribution Companies and the QF Regulations. Not surprisingly, the National Grid Interconnection Requirements formed the basis for the Distribution Companies' joint proposal for uniform interconnection standards that was presented to the Collaborative at the first meeting.

We believe that the Proposed Interconnection Tariff Timelines, the original joint utility proposal, and the current National Grid Interconnection Requirements themselves, misconstrue and misapply the meaning and intent of the QF Regulations. It would be an error compounded to allow these faulty Timelines to be the basis for interconnection timelines for all Qualifying Facilities in Massachusetts. To do so would likely make the timelines for interconnection of Qualifying Facilities significantly longer than exist today. If the Distribution Companies prefer

[23] For a discussion of the National Grid Interconnection Requirements, see Exhibit B attached hereto. We want to note that despite our criticism of the National Grid Interconnection Requirements, we have generally been pleased with the cooperative nature of the National Grid representatives, both in the Collaborative, and in other contexts as well. National Grid has a reputation as a Distribution Company that is willing to work with the DG industry cooperatively and we appreciate it.

uniformity, we suggest that the Department apply the timelines in the QF Regulations to all DG interconnections in Massachusetts. This is one of our points in Section II.1 above.

Therefore we ask the Department to clarify the meaning of 220 CMR 8.00 consistent with its original order in proceeding 99-38 and state that to the extent of any conflict between the Proposed Interconnection Tariff and the QF regulations, the QF Regulations shall apply to the interconnection of QFs and OSGFs.

(2) The Cost Allocation Provisions of Section 5 of the Proposed Interconnection Tariff are not consistent with the terms of the QF Regulations. Section 8.04(7) of the QF Regulations concerns interconnection costs, and states:

> "Interconnection Costs. The Qualifying Facility or On-Site Generating Facility shall reimburse the Distribution Company for the incremental cost, i.e., the costs resulting solely from interconnecting the power production equipment with the Distribution Company's system, including meter installation where applicable. Such costs are to be calculated as follows:…"[24]

Unlike the QF Regulation quoted above, the Distribution Company proposed language in Section 5 of the Proposed Interconnection Tariff states that an Interconnecting Customer is required to pay for all costs "required to allow for safe, reliable parallel operation of the Facility with the Company EDS."[25] Section 5 thus does not limit the costs that will be paid by an Interconnecting Customer to those "incremental" costs that result "solely" from the interconnection. This could include costs that would not be assessed an interconnecting customer under the QF regulations because the QF regulations limit the costs to those that are "solely for the benefit of the QF or OSGF."[26]

(3) The QF regulations do not provide for applications fees, and initial site inspections are performed at the Distribution Company's expense, whereas the Proposed Interconnection Tariff has substantial applications fees.[27] The conflict between fees and no fees cannot be clearer. That said, we would not object to the imposition of application fees, even in the case of

[24] 220 CMR 8.04(7)
[25] See Proposed Interconnection Tariff Section 5.4
[26] 220 CMR 8.04(7)(b). See also our discussion in Section III.4 below.
[27] .cf 220 CMR 8.04(2) with Proposed Interconnection Tariff, Section 3.0 p. 7

Qualifying Facilities. To argue that there is no conflict, however, between the QF Regulations and the Proposed Interconnection Tariff, is nonsense.

(4) The QF Regulations expressly allow an interconnecting QF or OSGF to amortize the costs of paying for interconnection upgrades over time.[28] In contrast, Section 5.5 of the Proposed Interconnection Tariff requires all payments for interconnection system upgrades be paid in full, but then provides a limited payment plan option when those costs exceed $25,000. We note that the so-called payment plan is really pay as you go and requires the Interconnecting Customer to make payments as the expenditures are made by the Distribution Company performing the work. Again, there is substantially different outcome depending on which set of rules you apply and to argue that the provisions are consistent is nonsensical .

In summary, there are substantial areas of conflict between the existing QF Regulations and the Proposed Interconnection Tariff. The Collaborative did not seek to resolve these areas of conflict. In nearly all cases of conflict between the QF Regulations and the Proposed Interconnection Tariff, an Interconnecting Customer that is a Qualifying Facility would prefer the QF Regulations, fairly applied. Not surprisingly, the Distribution Companies would likely prefer to see the QF Regulations, particularly the timelines, replaced by the Proposed Interconnection Tariff. In our view, this would be a mistake and a big step backwards.

Moreover, we were never asked, we never discussed, and certainly we never agreed (and nor did any other DG Stakeholder to our knowledge) to relinquish the relatively favorable treatment for Qualifying Facilities and On-Site Generation Facilities in the current QF Regulations as part of the negotiations over the Proposed Interconnection Tariff. The conflicts were never addressed in the Collaborative negotiations. This was the whole point of the sentence included in the cover letter to the Joint Report that "[T]his report is not intended to replace or change the regulations promulgated under 220 CMR 8.00."

For the Distribution Companies to argue that this sentence has no meaning because there is no conflict between the terms of the QF Regulations and the Proposed Interconnection Tariff is not reasonable, rational or supportable. The Distribution Companies might prefer that the Proposed Interconnection Tariff essentially replace the QF Regulations. They might like to argue that such a notion had and has the support of the Collaborative. Nothing could be further from the truth.

[28] 220 CMR 8.04(7)(c)

We are not making an "either, or" argument. We are not saying one must choose between the two sets of competing regulations. We believe that substantial progress has been made in the development of interconnection standards, particularly with regard to technical matters. Simply put, we are stating that to the extent any conflicts exist, particularly in the areas of cost allocation and timelines, that the QF Regulations should continue to apply to the interconnection of Qualifying Facilities and On-Site Generation Facilities and that the Proposed Interconnection Tariff compliance documents to be drafted and filed by the Distribution Companies must resolve those conflicts in a way that preserves the meaning and intent of the QF Regulations. Again, if uniformity becomes a driving concern, then we urge the Department accept RealEnergy's proposal on Timelines from Section II.1 above.

3. **Supercedence.** Once an Interconnection Agreement Has Been Entered, It Should Be Subject To the Proposed Interconnection Tariff in Effect at the Time, and the DG Facility Should Not Be Subject to Subsequent Changes in the Proposed Interconnection Tariff, Except for Issues of Public Safety.

The Collaborative was unable to reach agreement on whether interconnection agreements, once entered, and DG Facilities, once installed, should be subject to subsequent changes in the requirements of the Proposed Interconnection Tariff. Alternative language clearly stating the two alternatives is in Section 20 of the Form Interconnection Agreement.[29]

The DG Cluster took the position that once there has been detrimental reliance on an agreement or set of rules, that subsequent changes in the Tariff should not be deemed to apply to the Interconnection Agreement, which incorporates the Tariff at the time of execution. While the DG Cluster proposal in Section 20 is silent on the point, we would agree to changes if application of the new rules would have a no material adverse effect or cost on the interconnecting customer. Exceptions should apply for extraordinary circumstances. For example, in cases where a safety issue arises, then retroactive application might be appropriate. DG systems are expensive and often involve significant investments in engineering and equipment integration. Once a facility is approved and installed pursuant to the interconnection rules in effect at the time, the DG owner should have certainty that subsequent rule changes will

[29] Proposed Interconnection Tariff at 54.

not force additional costly retrofits. Otherwise, the DG Owner could be left with a stranded asset.

We note that the Distribution Companies fought long and hard to be able to recover costs that were stranded as a result of changes in law. The basic argument to support stranded cost recovery was that the Distribution Companies relied on the "regulatory compact" when they made the investments in question. That is to say, the investment decisions were approved (if not compelled) by the regulators under a set of rules which allowed them to recover on that investment. And therefore the Distribution Companies should be protected if the rules change and the basic agreement underlying their investment decision was changed after the fact. The same arguments apply to DG owners who could face a lost investment as a result of future rule changes which undermine the basic assumptions and agreements supporting their investment. Of course, DG owners do not have any other means of recouping their investment if the asset is stranded by future changes in the Interconnection Tariff. So the only other fair option is to provide protection against such future changes via a "grandfather clause" in the Interconnection Agreement which makes the Interconnection Agreement subject to the Tariff, ***in effect at the time of the Agreement,*** but not subject to future changes in the Tariff unless such future changes are deemed vital to the public safety.

During the Collaborative discussions, the Distribution Companies argued that no such "grandfather clause" should be included in the form of Interconnection Agreement because a DG Owner would have the opportunity to intervene in any future rulemaking proceeding where changes would be considered. But the Distribution Companies fail to appreciate the high cost of active monitoring and participation in regulatory proceedings. Unlike the Distribution Companies, many owners of distributed generation simply do not have the resources to continuously follow and actively participate in regulatory proceedings. We are aware of several companies that have declined to participate in the Department's investigation of distributed generation because of resource constraints.

Finally, we note that this concept of retroactive compliance does not apply to other classes of electrical equipment, where there is a presumption that after you get approval of the utility to operate your equipment, subsequent grid management/maintenance is the sole responsibility of the utility.

4. **Cost Allocations and Estimates.** The Department Should Revise the Cost Allocation Procedures of the Proposed Interconnection Tariff To (1) Incorporate the Cost Allocation Provisions From 220 CMR 8.04(7); and (2) Require a Distribution Company to Provide a "Not-To-Exceed" Estimate for Work To Be Performed by the Distribution Company For the Interconnection.

The Collaborative was unable to reach consensus on two issues regarding the allocation of costs for work performed by a Distribution Company in order to effect an interconnection: (1) what costs are reimbursable to the Distribution Company by the Interconnecting Customer, and (2) the treatment of costs that exceed Distribution Company estimates previously provided to an interconnecting Customer for interconnection studies or system upgrades.

Specifically, the Collaborative was unable to reach agreement regarding the appropriate allocation of utility costs for studies or upgrades where benefits may accrue to other utility customers. In addition, the Collaborative could not agree whether the utilities should be required to provide a "not-to-exceed" cost proposal for system modifications and system studies. Who should bear the excess cost when actual costs exceed the estimates provided in the Interconnection Agreement?

(1) An interconnecting customer should be required to reimburse the Distribution Company for the "incremental cost, i.e., the costs resulting solely from interconnecting the power production equipment with the Distribution Company's system, including meter installation where applicable."[30] The prior language is taken directly from the QF Regulations and we believe that Massachusetts got it right the first time.[31] In the Collaborative process, the Distribution Companies would not agree to include these concepts in the cost allocation provisions of Section 5. In our view, the highlighted language marked "DG Cluster" in Sections 5.1 and 5.4 of the Proposed interconnection Tariff captures the same concepts that are more fleshed out in the QF Regulations.

With regard to interconnection studies, this means that study costs assessed to the Interconnecting Customer should be limited to the costs associated with assessing the impact of the proposed DG Facility on the distribution system. In some cases, Distribution Companies have not studied their own systems for years, and they need to complete a system study before

[30] 220 CMR 8.04(7).

[31] The relevant provisions from the QF Regulations, 220 CMR 8.04(7)(a) and (b) are quoted in full above in the text accompanying note 14.

they can assess the impact of the DG on the system. The interconnecting customer should not pay for the Distribution Company to study and understand their own system. It is the responsibility of the Distribution Company to understand its own system at a level of detail that allows customers to take advantage of new technological developments. This is a cost of being a regulated monopoly, to serve your customers. The benefit of the Distribution Company understanding its own systems will be enjoyed by all rate payers over time. Moreover, many of the benefits of distributed generation, such as overall reliability, will accrue to the system as a whole.

Distribution Companies argued that the interconnecting customer should pay the costs of a system study, even though it is not solely related to the interconnection in question. They argue that they would not need to understand their system to extent necessary to understand the impact of a DG Facility, "but for" the presence of that Facility. We believe this assertion to be false, as many electrical devices that are regularly installed on the utility grid (elevators, motors, UPS systems, etc.) have the potential to create grid impacts that are identical to many of those which are addressed in this technical standard. (For example, elevator motors can export power to the grid, motors can create fault current and/or power factor degradation, UPS systems can inject harmonic wave forms onto the electric system). The regular installation of these devices without lengthy review nor expectation of expensive study costs necessarily suggests that the utilities either understand their grid well enough to interconnect DG or else do not - in many circumstances - require the extensive data provided for on the proposed standard.

In either case, this case history suggest that the utilities will not have a need to perform lengthy additional studies for most DG interconnections. In addition, this argument fails because to our knowledge the Distribution Companies are not fully compensated for all other system studies by the beneficiaries of those studies. Moreover, it would make bad policy because such a rule, drawn to its logical conclusion could lead to stagnation where the system is not modified to accommodate new technologies that hold benefits for all customers because of inefficient cost allocation measures. Under circumstances where all customers will eventually benefit, such an allocation of costs is not fair or appropriate.

The Utility Cluster language in Section 5 of the Proposed Interconnection Tariff does not clearly limit the costs that will be paid to those that result “solely” from the interconnection. The DG Cluster proposed language in Section 5 included the word “solely” in their proposed

alternative language in Section 5. However, we suggest that the language from the QF Regulations language from 220 CMR 8.04(7) captures the same ideas, but is more clearly drafted, leaves less room for uncertainty, and correctly allocates costs where they appropriately belong. Accordingly, we recommend that Section 5 of the Proposed Interconnection Tariff be modified to include the language from 200 CMR 8.04(7)(a) and (b).

(2) The second cost related issue that the Collaborative seeks clarification and resolution from the Department is who pays for additional costs when the estimate of interconnection costs is less than the actual amount. Under the Distribution Company proposal, the Distribution Company will provide the interconnecting Customer with an estimate of the cost of required system upgrades (or modifications). If the estimate is wrong by more than 10%, the Distribution Company will inform the interconnecting customer and, if the customer wants to proceed, then collect the full amount upon completion.

The rule proposed by the Distribution Companies creates no financial incentive to keep costs down. Given that the interconnecting customer is also a competitor, a rule providing the Distribution Company the ability to pass any and all cost overruns through to the interconnecting customer creates the wrong incentives. Even ignoring the moral hazard, it will not take more than a few poor estimates to create substantial uncertainty regarding the expected costs of interconnection, and that will deter would-be distributed generators.

We strongly feel that the Distribution Companies should be incentivized to provide accurate estimates of the expected costs of interconnection. To the extent that conditions beyond the control of the Distribution Company cause the costs to increase, such as Force Majeure events, then a cost adjustment is appropriate.

Distribution Companies will be constructing facilities for the use, and largely at the cost of an interconnecting customer. Because the customer is also a competitor, there must be a check on Distribution Company action. While the market usually provides such a check through competition, in this circumstance, the interconnecting customer is a captive customer. In lieu of a market check, the Distribution Company should be required to provide a firm "not to exceed" estimate for any work performed in connection with the interconnection of a DG Facility. We therefore request that the Department adopt the language proposed by the DG Cluster on page 48 in the Form Interconnection Agreement (and in the other agreements as well).

Respectfully Submitted on behalf of:

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Encorp

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EXHIBIT A

In Section B.3.b of the Department's Order amending 220 CMR 8.00 et.seq., adopted December 27, 1999, the Department reviews the comments of the Distribution Companies to earlier proposed rules and explains it's reasoning behind the new Section 8.04(6) :

b. Section 8.04(6) - Conditions for Interconnection

Commenters noted that the time intervals allowed for interconnecting QFs were inconsistent with the time intervals allowed for QF contract negotiations (MECo/Nantucket Comments at 2-3; WMECo Comments at 7). That is, 60 days were typically allowed for QF interconnections while 120 days were allowed for QF contract negotiations. See Proposed QF Regulations, §§ 8.04(6)(a), 8.03(1)(c).

The Department notes that a distribution company could be required to interconnect with a QF prior to reaching an agreement to purchase, if such an agreement is reached at all. Accordingly, to establish consistent time intervals with respect to QF interconnections and QF contract negotiations,[5] the Department adjusts the interconnection time requirement from 60 days to 90 days in the first sentence of § 8.03(6)(a).[6]

The Department notes that, after the 90-day time period has expired, parties are afforded the right to petition the Department if agreement has not been reached in terms of a power purchase contract or an interconnection cost estimate. See 220 C.M.R. §§ 8.03(1)(c), 8.04(3). The Department recognizes that in the case of such an impasse, a postponement may be warranted. Accordingly, the Department adds the sentence, "Additional time may also be granted by the Department if a petition under § 8.03(1)(c) or § 8.04(3) is before the Department" following the second sentence in § 8.04(6)(a).

[5] As noted above, the Department has also amended section 8.03(1)(c) which now allows 90 days, instead of 120 days, for QF's and distribution companies to agree to terms of power purchase contracts. If there is no agreement in 90 days, the QF may petition the Department to investigate the reasonableness of the distribution company's actions.
[6] The Department notes that this 90-day interval is also consistent with the interconnection cost estimate time interval. See 220 C.M.R. § 8.04(3).

EXHIBIT B

The Timelines in the National Grid Interconnection Standards are not consistent with Qualifying Facility Regulations located at 220 CMR 8.04(6)

Although the National Interconnection Requirements Document was approved by the Department as compliant with the QF Regulations after public hearings in early 2002 (M.D.T.E. No. 1052), we submit that the National Grid Interconnection Requirements nonetheless depart dramatically from the requirements of the QF Regulations with respect to Timelines, and as a result, the National Grid Interconnection Requirements are not an appropriate basis upon which to build interconnection standards for all Massachusetts distributed generation, and particularly not for Qualifying Facilities and On-Site Generation Facilities, which should remain subject to the QF Regulations currently in place. A review of the National Grid Interconnection Requirements Timelines shows how the National Grid Interconnection Standards misconstrue and misapply the QF Regulations.

Section 2 of the National Grid Interconnection Standards sets forth the process that the National Grid Companies will follow upon receiving an interconnection application. The process is complex and it is difficult to untangle the various notice periods, studies required, discretionary decisions involved, and the time permitted for each step of the interconnection review process. In addition, the National Grid Standards are peppered with references to QFs and OSGFs, the 45 and 90 day time periods called for in the QF Regulations, and references to the appropriate sections of the QF Regulations. This creates the impression that the National grid Interconnection Requirements were drafted to conform to the requirements of the QF Regulations.

However, a close read of the National Grid Standards shows that the intent and meaning of the QF Regulations has been misconstrued and misapplied with respect to the time that the Distribution Company has to interconnect a Qualifying Facility.

The QF Regulations where the timelines are set up to run concurrently – that is, the 45 day period to perform the site inspection, the 90 day period to negotiate a purchase agreement and the 90 days period to interconnect the QF all run concurrently. In contrast, National Grid timelines are designed to run consecutively. As a result, National Grid Companies may take up to 325 calendar days or more to interconnect a Qualifying Facility or On-Site Generating Facility

before the terms of the policy would be violated. Moreover, National Grid still provides the option to petition the Department for an extension even after the 325 day period.[32] In addition, there is an implicit lag time between each of the several stages of the National Grid policy because each stage requires a different agreement which must be negotiated, and this could extend the timeline substantially longer than 325 days. To be sure, the Company may decide to shorten the review if certain studies are deemed unnecessary, but the Company retains all discretion over what studies are necessary and when. The Interconnecting Customer has no control over the process.

In summary, National Grid Standards have the following periods of time built into the current review process:

| Process Step | Time Allowed | Section | Sheet |
|---|---|---|---|
| Review application and inspect facility: | 45 Days | 3.0c | 5 |
| Perform system "Impact Study"[33] | 90 Days | 3.0f | 6 |
| Perform System "Detailed Facilities Study"[34] | 90 Days | 3.0i | 7 |
| Construct Distribution Facility Upgrades | 90 Days | 5.1 | 11 |
| | Total: 325 Days | | |

As mentioned, these timelines run consecutively, not concurrently. If the timelines ran concurrently, they might accord with the requirements of 220 CMR 8.04(6) which provides the utility 90 days to interconnect (or seek extension from the Department). But they don't.

Moreover, despite the many references to the QF Regulations, the National Grid Standards misinterpret and misapply the QF regulations through subtle, but highly significant, verbal twists. As one example that leads to a distorted result, we point to Section 5.1 of the National Grid Standards, which states:

> "If the Company cannot interconnect a Qualifying Facility or On-site Generating Facility within 90 days of the Company's receipt of the **executed interconnection agreement** (*emphasis added*) and payment in full or such later date as agreed to between the Company and the Interconnecting Customer, that Interconnecting Customer or the Company may petition the Department to determine the time frame for the completion of the interconnection, in accordance with 220 C.M.R. 8.04(6)(a)."

[32] See National Grid Interconnection Requirements Document, Section 5.1).
[33] The studies are performed "if necessary," but all discretion is with National Grid.
[34] Id.

The verbal twist is that they make the 90 day period run from the date of receipt of the executed interconnection agreement. The QF Regulations call for the 90 day period to run from the date of receipt of notice of intent to interconnect. This seemingly innocuous word change effectively adds as much as an additional 235 days to the process, because no party would have an executed interconnection agreement without going through the process set forth in Section 3 as outlined above. While it is true that National Grid has the discretion to take much less time, all the discretion is in their hands as to what studies are needed and what work shall be done.

The National Grid Interconnection Requirements Timelines are dramatically different from the interconnection standards currently in place for the other three Distribution Companies in Massachusetts, which track the actual language of the QF Regulations much more closely and have 90 day interconnection requirements (subject, of course, to the extension for extenuating circumstances).[35]

In conclusion, we recognize that the National Grid Standards were approved following a public hearing. We understand that the Department determined that the National Grid Standard is compliant with the QF Regulations. However, we suggest that was a result of a mistake and misconstrual of the meaning and intent of Section 8.04(6) of the QF Regulations. See Exhibit A above for the Department's discussion of the meaning and intent of the QF Regulations. We hope that in the process of adopting and approving interconnection standards for all of Massachusetts, the Department will bring the National Grid Interconnection Standards into line with the policies of the other Distribution Companies.

[35] See NSTAR Services Co., Procedures for Interconnection, Metering and Payment with Qualifying Facilities or On-Site Generating Facilities Section 8.04(6); WMECO Tariff M.D.T.E. 1014C; and Fitchburg Gas and Electric Light Company Rates Applicable to Qualifying Facilities and On-Site Generation Facilities (M.D.T.E. No. 57 sheet 4).